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Customized Web Interaction and Its Effect on Consumer Behavior and Evaluations

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Abstract

The goal of this paper is to provide insight into the effectiveness of site customization. In the marketing context, the term customization is often used to refer to the tailoring of products and services to the individual customer's needs and wants. Online customization offers customers the opportunity to tailor a web site to their needs and wants. The customization of web sites can provide customers with added value but may also increase their switching costs. In this paper we will investigate the possible effects of site customization on individual customer perceptions and purchase behavior.

1. Introduction

During the last century, several developments have dominated marketing theory. From the production concept, focusing on efficient and low costs production facilities allowing products to be widely available, theory has evolved to the customer concept, where the focus is on shaping offers, services and messages to individual customers [15]. One of the main differences in these concepts is the role of information, especially individual customer information. Implementing the customer concept requires the availability of information about individual customers. For example, a direct marketing approach lets marketers identify needs and wants of individual customers and target customers based on these pre-identified preferences [14].

The focus on individual customers and forming a long-term relationship with these customers to mutual benefit is core to relationship marketing theory (e.g., [4], [21]). Creating products and services tailored to individuals needs and wants, creates long-term relationships and competitive advantage (e.g., [27], [7]). The combination of relationship marketing and mass-customized products and services has proven its worth [23]. Moreover, the availability of information technology allows customization of not only products and services, but also communication and distribution [25]. To initially customize these functions closest to the marketplace, that is the downstream functions, makes the most sense [16].

The tailoring of products and services to the needs and wants of individual customers, has received considerable

attention since the rise of relationship marketing. Web site customization is a new example of tailoring to the needs and wants of individual customers. Companies incorporate several interactive functions in their websites, ranging from customer-specific wish lists to MyCompany.com sites. Customization functions are found in many Web sites, both in business-to-business (B2B) markets and in business-to-consumer (B2C) markets. For example, Marshall Industries, an electronic distributor, offers customers the opportunity to search for parts by their own internal reference part number. Customers have to key in once which internal reference numbers correspond to which Marshall part numbers. At subsequent visits, customers are able to use their own internal numbers (www.marshall.com). Other well-documented examples are Dell in B2B markets, and Amazon, Musicblvd, and Yahoo in B2C markets. For instance, the Dell's password protected Premier Pages contain for each corporate customer only the products, prices, approval procedures, service and support information that is appropriate to that particular customer. Dell has developed more than 35,000 Premier Pages in 12 languages.

In the direct marketing literature the advantages of personalization are recognized and its importance is often stressed. Customization of Web sites, however, provides more opportunities to tailor information and services to the specific needs of individual customers. In practice, many companies are experimenting with customized sites, and in the business press one can find ample anecdotal evidence of their success. However, although the importance of site customization has been stressed in conceptual papers, to our knowledge no academic study provides empirical evidence for it.

The application of site customization leads to several questions. For instance, what are the consequences of customization in relation to product variety, advertising and promotions [20]? How does customization influence the satisfaction with the online channel [26]? How does the interaction with customized technology effect customer evaluations and behavior [18]? With this study we aim to provide insight into the effectiveness of web site customization. More specifically, we will answer the following four questions: What is web site customization? How can we determine the effect of site customization on customer attitudes and behavior? How can we measure

the extent to which customers are using site customization features? Using data about 900 customers of a national retailer who have used the company's site for at least one year, we will answer the final research question: to what extent can the hypothesized effects of site customization be shown in an empirical study?

The remainder of this article proceeds as follows. The second section discusses site customization and provides an answer to the question what it is. The third section discusses the effectiveness of site customization. That is, how the effect of site customization on customer evaluations and behavior should be determined. The fourth section discusses the data collection and analysis and provides an insight into the effect of site customization on customer evaluations and behavior. The fifth section concludes and identifies areas for future research.

2. Online Customization

There are many ways to customize (elements of) a product. The term product is used here in a broad sense, including both the primary product or service and supporting services, as well as the information communicated to customers about these elements and their use [30]. Most opportunities for customization exist for products that can be digitized. Digital products can be customized at almost zero marginal costs, examples include customized music cd's and sites that offer the opportunity to monitor your own portfolio of stocks. For non-digital products the mass customization literature offers a variety of cost-effective customization approaches. Many companies offer components (or modules) that customers can combine into 'tailor-made' products, well-known examples reach from pizzas and clothing to cars and personal computers. Dell customers can configure and evaluate multiple systems online with choices from hundreds of components and obtain instant price quotes, enabling them to select the best possible PC given their budget and performance requirements.

Customization of web sites, according to Srinivasan et al. [24] indicates the ability of an e-retailer to tailor products, services and the transactional environment to individual customers. Wind and Rangaswamy [29] offer an extended view with their theory of customerization, where a customized site is used to create a customized product or service. Angehrn and Meyer [1] describe online customization as the degree to which the Internet is used to provide individualized services to users. Rowley [22] also describes customization as the tailoring of web site and product offerings to suit specific customers, based on customer profiles. Thus, site customization refers to making a site tailor-made based upon information explicitly provided by the customer.

Besides site customization, the concept personalization is often referred to in an Internet setting. Hanson [9] uses the term personalization to describe a special form of product differentiation, transforming a

standard product or service into a specialized solution for an individual. The term personalization most likely originates from the direct marketing theory. In the DM theory, personalization implies tailoring a mailing to individual customers through for instance a personalized letter heading [10]. Site personalization can be considered as the collection of individual customer data in order to provide an individual online experience.

So, both site customization and personalization are focused on collecting and using individual customer data on customer preferences in order to make the site more customer-specific. The difference between both concepts is that site customization is initiated by the customer. The customer explicitly decides to provide the supplier with information about preferences needs and interests [12]. User names and passwords limit access to only the authorized customer, thus enabling suppliers to build extranets with specific customers. The provider initiates site personalization. Based on the information the supplier has collected about the customer, e.g. purchases or click stream data, the supplier adapts the contents of web pages to improve their relevancy for this customer. For example, if a customer searches for maintenance information the site can offer links to the maintenance of any available product or links to only those products that have been bought by that particular customer. This differentiation based on customer control was empirically tested by Burke [5]. His research indicates that customers prefer the one-to-one marketing options that give them control over acquisition, dissemination and use of their personal information.

The level of customer awareness and customer control in respect to the tailoring process characterizes site customization and personalization. Based on the awareness (customer and/or organization), Wallin [28] distinguishes between four types of customization, where the level of awareness is different for the parties involved. If the customer deludes the organization, i.e. through filtering, the customer has the highest level of awareness. When neither the organization nor the customer is aware, the filtering is performed by a third party and is referred to as censorship. The other two forms are the closest related to site customization and personalization as described. If an organization personalizes the information, the firm has the highest awareness and it can be considered as the provider deluding the customer. With site customization both parties should be aware of the tailoring process, referred to by Wallin [28] as collaboration between the organization and the customer.

Hanson [9] provides a similar distinction in relation to the level of customer control. If the customer controls the tailoring process, he refers to adaptive customization. The terms cosmetic and transparent customization are used to describe customization strategies where the organization is in control. Collaborative customization describes the strategy where both parties have some level of control. Table 1 provides an overview of the characteristics mentioned for both site customization and site

personalization and the corresponding strategies provided by Wallin [28] and Hanson [9].

Table 1. Characteristics of customization and personalization

	Web Site Customization	Web Site Personalization
Customer awareness	High	Low
Firm awareness	High	High
Wallin	Provider and customer collaborate	Provider deludes customer
Customer control	High	Low
Firm control	High	High
Hanson	Collaborative customization	Cosmetic or adaptive customization

Both forms of online tailoring, site customization and site personalization, have much in common. Both concepts have the objective to provide a tailored experience via the Internet. In order to achieve this experience, both concepts collect and apply personal information. Only with respect to the method of data collection there is a difference. In the case of site personalization, the supplier collects information based on expressed behavior online, which is less obvious to the customer. In the case of site customization, the supplier explicitly asks the customer to provide personal information in order to tailor the experience. Research has shown that combining site personalization with site customization increases the satisfaction with the personalization elements over which the customer has less control [19]. In this paper we will focus on site customization. However, given the close relationship with site personalization, much of what we will discuss, e.g., how to determine the effectiveness of site customization, will be relevant for personalization too.

3. Effectiveness of Web Site Customization

In order to provide tailored web site experiences suppliers collect and use personal information, where the method of collection can be either explicit (asking the customer for information) or implicit (through observing customer behavior). Site customization can have an effect on both customer evaluations and behavior [18]. Examples of customer evaluations include satisfaction and loyalty, while behavior can be related to the site visiting behavior or to purchases.

The customer evaluations can be related to the site or the organization. Site customization is expected to improve satisfaction and loyalty. The satisfaction can be related to the site, but might also be related to elements outside of the site. The same holds for loyalty, due to the

expectation that web site customization provides more value and therefore improves relationships (e.g., [17], [2]). In order to determine the effect of site customization on evaluations both aspects, i.e. evaluations with respect to the site as well as other elements of the organization, will be taken into account.

Customer behavior may be related to behavior in the web site, such as web site stickiness. Web site stickiness is characterized by the duration, the intensity and the frequency of web site visits. The concept reflects the overall attractiveness of a web site, portrayed in customer online behavior. However, behavior may also be related to the purchases customers make. These purchases can be made either online or offline. In cases where the site does not contain a transaction function, which is the case for most current web sites (e.g., [8], [11], [3], [6]), purchasing behavior only refers to offline purchases.

So, in order to define the effects of web site customization, we focus on the three main concepts, e.g. web sites stickiness, customer evaluations and customer purchases. We assume a direct influence on all three main concepts, e.g. web site customization has a direct influence on stickiness, customer evaluations and customer purchases. Assume that a web site uses customer profiles to customize the content and product suggestions. Then, it is conceivable that the tailored content will influence the attractiveness and the evaluation of the site and that the product suggestions will influence the evaluation of the organization and the purchases. Therefore, web site customization would have a direct effect on all three concepts, as presented in figure 2.

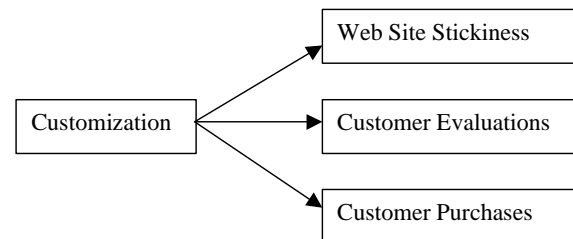


Figure 2. Conceptual models reflecting the effects of web site customization

Based on this model, hypotheses with respect to the effect of site customization on web site stickiness, customer evaluations and customer purchases can be formulated.

- H₁: Web site customization has a positive effect on web site stickiness.
- H₂: Web site customization has a positive effect on customer evaluations.
- H₃: Web site customization has a positive effect on customer purchases.

Besides these hypotheses, due to the exploratory nature of this type of research, the relations between the concepts will be investigated as well.

Until now we have considered site customization as a homogenous concept. In practice, however, there are various types of customization that can be distinguished. Firstly, for several site customization features the benefits are clear and customers can determine them beforehand, while with other customization features customers have to wait and see to what extent they will benefit from providing the supplier with personal information. Being able to determine the background color of a web site, allows the customer to instantaneously determine the benefits of the feature. Providing a web site with preferences implies that the customer will have to wait and see how well the supplier is able to provide product suggestions based on these preferences.

Secondly, the level of customer awareness also affects the effectiveness of customization. For instance, explicitly providing a site with preferences will make the customer aware of the process and will increase his/her expectations. If the customization is implicit, it is less obvious to a customer and will have a less direct effect on for instance customer evaluations and purchases.

Thirdly, it is possible to make the distinction between customization features, i.e. a shopping list, and customized features, i.e. product suggestions. Suppose a web site has both features: a shopping list and product suggestions based on provided preferences. A shopping list allows customers will most likely be tailored at each visit of the feature, for instance to add or remove products. Providing preferences is a feature, which is tailored once, that is, the preferences will most likely listed once. However, the page with the product suggestions, e.g. the customized feature, might be visited at each web site visit.

In our measure of the extent to which customers use site customization features we will take into account the different types of features with respect to the customer benefits, customer awareness and customization versus customized features. Moreover, when measuring the level of customization, the number of available and the number of used customization/customized features should be taken into account. A distinction between customization and customized features should also be made. A correction for the degree of page views and the degree of visits should also be incorporated.

In order to determine the effects of web site customization data is necessary on an individual customer level. It should also be possible to link all of the different measures to individual customers. That is, for each individual customer it should be known (1) what he/she does in terms of customization, (2) how intensive he/she visits the site, (3) what his/her evaluations are with respect of the site and the organization and (4) what purchases he/she has made.

4. Data Collection and Analysis

In our empirical study, we focused on the effect of the use of customization features of a non-transaction web site on the stickiness, perceptions and offline purchases of the customers of a large national retailer. Purchase data and site usage data of individual customers is available for a period of one year. After this year, the users of the web site completed an extensive online questionnaire. All the data can be linked on an individual customer level by means of customer ID card numbers.

The site mainly offers information and entertainment but also provides product suggestions based on information provided by the users. The site requires the customers to log on at every visit, providing a customized experience for each individual customer. The customization features the site offers, ranges from product suggestions based on information provided by the customer, to online address books with an online gift planner.

It was decided that only those users who had at least visited the web site four times were included in the analyses. Of these users only those were included who had completed the questionnaire. Eventually, this resulted in a sample size of 900 users.

So far, only some preliminary analyses, e.g. correlations, have been performed. We are still in the process of testing the model as presented in figure 2. The extent to which customers use the customization features had a direct relationship with the online satisfaction and the stickiness of the web site. We did not find a direct relationship between customization and offline purchases. So far, it seems that site customization has an influence on web visits, i.e. the duration, intensity and frequency of the visits, and the evaluation of the site.

5. Conclusions

With this study we aimed at determining the effectiveness of site customization. In order to do so, we have shown that conceptually site customization and site personalization do not differ that much. The difference between these concepts mainly lies in the method of collection of personal information. The objective, providing individual customers a tailored web site experience, and the use of the information, however, remain highly similar. The opportunities the Internet offers to customize products and services are extensive and provide ample opportunity to engage in true one-to-one relationships.

Moreover, Dell offers anecdotic evidence of the effects of site customization. Both personalization and customization are iterative processes that are beneficial to both parties: customers receive functions and offers that better match their needs and suppliers decrease waste and increase the customer's switching costs. Huizingh [13] found that customization of the Web site is an important determinant for Web site success.

The preliminary results of our empirical study indicate

that the extent to which customers use site customization features is only related to online perceptions and behavior. The effect on purchases made offline was not significant. So, it seems that the effects are limited to the environment where the customization of the communication takes place and is not extended to other channels in which the supplier and the customers interact. Further research into the relationships between the various possible effects of site customization should provide more insight into the structure of the chain of effects of web site customization.

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